

ABSTRACT

A NO_x catalyst (10) traps nitrogen oxides in the exhaust gas of a diesel engine (40), and particulate matter is trapped by a filter (41). The sulfur poisoning of the NO_x catalyst (10) is eliminated using exhaust gas corresponding to a rich air-fuel ratio. The exhaust gas composition is changed over to a lean air-fuel ratio according to an increase of a particulate matter collection amount during the elimination of sulfur poisoning so that the particulate matter collection amount in the filter (41) does not increase. As a result, when the particulate matter collection amount decreases due to combustion of collected particulate matter, elimination of sulfur poisoning again proceeds using exhaust gas corresponding to a rich air-fuel ratio.